

# AXIS X1100 Explosion-Protected PTZ Camera

Zone 1/Div 1-certified PTZ ensures safe operations

Certified ATEX, IECEx, and NRTL (SGS) for Zone 1/Division 1 hazardous environments, AXIS X1100 delivers excellent 4K image quality with 31x optical zoom. Ideal for health and safety applications, this AI-powered camera comes with hard hat and fall detection. It also includes smoke and fire detection to help reduce fire risks. Made from marine-grade stainless steel, it can handle extreme temperatures from -60 °C to 60 °C (-60 to 140°F). It's easy to integrate with other devices and networks. Furthermore, Axis Edge Vault, a hardware-based cybersecurity platform, safeguards the device and offers FIPS 140-3 Level 3 certified secure key storage and operations.

- > **Globally certified for Zone 1/Div 1**
- > **Excellent 4K image quality with 31x optical zoom**
- > **Analytics to detect smoke, fire, and PPE violations**
- > **Robust and durable in extreme environments**
- > **Built-in cybersecurity with Axis Edge Vault**



# AXIS X1100 Explosion-Protected PTZ Camera

## Camera

### Image sensor

1/1.8" progressive scan CMOS  
Pixel size 2.0 µm

### Lens

Zoom speed: <1 sec between any zoom value  
Varifocal, 6.91 – 214.64 mm, F1.36  
Horizontal field of view: 58.5° – 2.3°  
Vertical field of view: 34.9° – 1.4°  
Minimum focus distance: 1.8 m (5.9 ft)  
Autofocus, P-iris

### Day and night

Automatic IR-cut filter  
Hybrid IR filter

### Minimum illumination

Color: 0.11 lux at 50 IRE, F1.36  
B/W: 0.04 lux at 50 IRE, F1.36

### Shutter speed

1/59000 s to 1/2 s

### Pan/Tilt/Zoom

Pan: 360° endless  
Tilt: +90 to -90°, 0.6° – 360°/s  
Zoom: 31x optical, 12x digital, Total 372x zoom  
Quick-zoom, nadir flip, 300 preset positions, tour recording (max 10, max duration 16 minutes each), guard tour (max 100), control queue, on-screen directional indicator, set new pan 0°, adjustable zoom speed

## System on chip (SoC)

### Model

ARTPEC-9

### Memory

4096 MB RAM, 8192 MB Flash

### Compute capabilities

Deep learning processing unit (DLPU)

## Video

### Video compression

H.264 (MPEG-4 Part 10/AVC) Baseline, Main and High Profiles  
H.265 (MPEG-H Part 2/HEVC) Main Profile  
AV1  
Motion JPEG

### Resolution

3840x2160 4K UHD

### Frame rate

Up to 50/60 fps (50/60 Hz) in all resolutions

### Video streaming

Up to 20 unique and configurable video streams<sup>1</sup>  
Axis Zipstream technology in H.264, H.265 and AV1  
Controllable frame rate and bandwidth  
VBR/ABR/MBR H.264/H.265/AV1  
Low latency mode  
Video streaming indicator

### Signal-to-noise ratio

>55 dB

### WDR

Forensic WDR: Up to 120 dB depending on scene

### Noise reduction

Spatial filter (2D noise reduction)  
Temporal filter (3D noise reduction)

### Image settings

Saturation, contrast, brightness, sharpness, white balance, day/night threshold, local contrast, tone mapping, exposure mode, exposure zones, defog, barrel distortion correction, compression, rotation: 0°, 180° including corridor format, mirroring, text and image overlay, dynamic text and image overlay, overlay widget, privacy masks, lock aperture, target aperture  
Scene profiles: outdoor, indoor, forensic

### Image processing

Forensic WDR, Lightfinder 2.0

1. We recommend a maximum of 3 unique video streams per camera or channel, for optimized user experience, network bandwidth, and storage utilization. A unique video stream can be served to many video clients in the network using multicast or unicast transport method via built-in stream reuse functionality.

## Network

### Network protocols

IPv4, IPv6 USGv6, ICMPv4/ICMPv6, HTTP, HTTPS<sup>2</sup>, HTTP/2, TLS<sup>2</sup>, QoS Layer 3 DiffServ, FTP, SFTP, CIFS/SMB, SMTP, mDNS (Bonjour), UPnP<sup>®</sup>, SNMP v1/v2c/v3 (MIB-II), DNS/DNSv6, DDNS, NTP, NTS, RTSP, RTP, SRTP/RTSPS, TCP, UDP, IGMPv1/v2/v3, RTCP, ICMP, DHCPv4/v6, ARP, SSH, LLDP, CDP, MQTT v3.1.1, Secure syslog (RFC 3164/5424, UDP/TCP/TLS), Link-Local address (ZeroConf)

## System integration

### Application Programming Interface

Open API for software integration, including VAPIX<sup>®</sup> and AXIS Camera Application Platform (ACAP); specifications at [axis.com/developer-community](https://axis.com/developer-community).

One-click cloud connection

ONVIF<sup>®</sup> Profile G, ONVIF<sup>®</sup> Profile M, ONVIF<sup>®</sup> Profile S, and ONVIF<sup>®</sup> Profile T, specifications at [onvif.org](https://onvif.org)

### Video management systems

Compatible with AXIS Camera Station Edge, AXIS Camera Station Pro, AXIS Camera Station 5, and video management software from Axis' partners available at [axis.com/vms](https://axis.com/vms).

### Onscreen controls

Autotracking  
Day-night shift PTZ  
Orientation aid  
Play media clip  
Privacy masks  
Timed wiper  
WDR

### Onscreen controls

## Event conditions

Device status: above operating temperature, above or below operating temperature, below operating temperature, fan failure, IP address removed, IP address blocked, live stream active, network lost, new IP address, PTZ power failure, system ready, within operating temperature

Edge storage: recording ongoing, storage disruption, storage health issues detected

I/O: manual trigger, virtual input<sup>3</sup>

MQTT: MQTT client connected

PTZ: PTZ malfunctioning, PTZ movement, PTZ preset position reached, PTZ ready

Scheduled and recurring: schedule

Video: average bitrate degradation, day-night mode

## Event actions

Day-night mode: Use day-night mode while the rule is active

Defog: set defog mode, set defog mode while the rule is active

Images: FTP, SFTP, HTTP, HTTPS, network share and email

MQTT: MQTT publish

Notification: email, HTTP, HTTPS, TCP

Overlay text: use overlay text, use overlay text while the rule is active

Recordings: record video, record video while the rule is active

Security: erase configuration

SNMP: trap messages, trap messages while the rule is active

Video clips: FTP, HTTP, HTTPS, SFTP, email, network share

## Analytics

### Applications

#### Included

AXIS Object Analytics, AXIS Scene Metadata, AXIS Video Motion Detection, active tampering, autotracking 2

#### Supported

Support for AXIS Camera Application Platform enabling installation of third-party applications, see [axis.com/acap](https://axis.com/acap)

2. This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit. ([openssl.org](https://openssl.org)), and cryptographic software written by Eric Young ([ey@cryptsoft.com](mailto:ey@cryptsoft.com)).

3. Only available with midspan.

### AXIS Object Analytics

**Object classes:** humans, vehicles (types: cars, buses, trucks, bikes, other)

**Scenarios:** line crossing, object in area, time in area, crossline counting, occupancy in area, tailgating detection, PPE monitoring<sup>BETA</sup>, motion in area, motion line crossing

Up to 10 scenarios

**Other features:** triggered objects visualized with trajectories, color-coded bounding boxes and tables

Polygon include/exclude areas

Perspective configuration

ONVIF Motion Alarm event

### AXIS Scene Metadata

**Object classes:** humans, faces, vehicles (types: cars, buses, trucks, bikes), license plates

**Object attributes:** vehicle color, upper/lower clothing color, bag, confidence, position

## Approvals

### Product markings

CE, ATEX, IECEX, RCM, SGS

### Supply chain

TAA compliant

### EMC

CISPR 35, CISPR 32 Class A, EN 55035, EN 55032 Class A, EN 61000-3-2, EN 61000-3-3, EN 61000-6-1, EN 61000-6-2

**Australia/New Zealand:** RCM AS/NZS CISPR 32 Class A

**Canada:** ICES(A)/NMB(A)

**USA:** FCC Part 15 Subpart B Class A

### Safety

CAN/CSA C22.2 No. 62368-1 ed. 3, IEC/EN/UL 62368-1 ed. 3

### Environment

IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-6, IEC 60068-2-14, IEC 60068-2-27, IEC 60068-2-64, IEC 60068-2-78, IEC/EN 60529 IP66, IEC/EN 60529 IP67, IEC/EN 60529 IP68, IEC/EN 62262 IK10, UL 50E

### Network

NIST SP500-267

### Cybersecurity

ETSI EN 303 645, BSI IT Security Label, FIPS 140

### Explosion

IEC/EN 60079-0, IEC/EN 60079-1, IEC/EN 60079-31, UL 60079-0, UL 60079-1, UL 60079-31, CSA C22.2 No. 60079-0, CSA C22.2 No. 60079-1, CSA C22.2 No. 60079-31  
CSA C22.2 No. 25, CSA C22.2 No. 30, CSA C22.2 No 213, UL 1203, UL121201

### Certifications

Type Type P221305

**ATEX:**

I M2 Ex db I Mb

II 2 G Ex db IIC T5 Gb

II 2 D Ex tb IIIC T100°C Db

**Certificate:** ExVeritas 20ATEX0651X

**IECEX:**

Ex db I Mb

Ex db IIC T5 Gb

Ex tb IIIC T100°C Db

**Certificate:** IECEX EXV 20.0017X

**cSGSus:**

Class I Div 1 Groups B,C,D T5

Class II Div 1 Groups E,F,G T5

Class I Zone 1 AEx db IIC Gb

Zone 21 AEx tb IIIC

## Cybersecurity

### Edge security

**Software:** Signed OS, brute force delay protection, digest authentication and OAuth 2.0 RFC6749 Client Credential Flow/OpenID Authorization Code Flow for centralized ADFS account management, password protection, Axis Cryptographic Module (FIPS 140-2 level 1)

**Hardware:** Axis Edge Vault cybersecurity platform  
Secure keystore: secure element (CC EAL 6+, FIPS 140-3 Level 3), system-on-chip security (TEE)  
Signed video, secure boot, encrypted filesystem (AES-XTS-Plain64 256bit)

### Network security

IEEE 802.1X (EAP-TLS, PEAP-MSCHAPv2)<sup>4</sup>, IEEE 802.1AE (MACsec PSK/EAP-TLS), IEEE 802.1AR, HTTPS/HSTS<sup>4</sup>, TLS v1.2/v1.3<sup>4</sup>, Network Time Security (NTS), X.509 Certificate PKI, host-based firewall

### Documentation

*AXIS OS Hardening Guide*

*Axis Vulnerability Management Policy*

*Axis Security Development Model*

AXIS OS Software Bill of Material (SBOM)

To download documents, go to [axis.com/support/cybersecurity/resources](https://axis.com/support/cybersecurity/resources)

To read more about Axis cybersecurity support, go to [axis.com/cybersecurity](https://axis.com/cybersecurity)

4. This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit. (openssl.org), and cryptographic software written by Eric Young (eay@cryptsoft.com).

## General

### Casing

IP66-, IP67-, IP68- and IK10-rated, electropolished ASTM 316L (EN 1.4404) stainless steel casing for maximum corrosion protection  
Wiper included  
Cable entry on the side

### Power

100–240 VAC, max 150 W  
Camera consumption: typical 15 W, max 150 W  
Features: power meter

### Connectors

Two M25x1.5 cable entries  
2-pole connector for power, 0.2 - 3.0 mm<sup>2</sup> (24 - 12 AWG)  
2-pole connector for 48 V DC (max 14.4 W) AUX out, 0.2 - 3.0 mm<sup>2</sup> (24 - 12 AWG)  
6-pole connector for relay  
RJ45 10BASE-T/100BASE-TX  
SFP cage for alternative network connection

### Storage

Pre-installed AXIS Surveillance microSDXC Card 1 TB  
Support for SD card encryption (AES-XTS-Plain64 256bit)  
Recording to network-attached storage (NAS)  
For SD card and NAS recommendations see [axis.com](https://axis.com)

### Operating conditions

-55 °C to 60 °C (-67 °F to 140 °F)  
Start-up temperature: -40 °C  
Humidity 10–100% RH (condensing)

### Storage conditions

-40 °C to 65 °C (-40 °F to 149 °F)  
Humidity 0-98% RH (non-condensing)

### Dimensions

For the overall product dimensions, see the dimension drawing in this datasheet.  
Effective Projected Area (EPA): 0.076 m<sup>2</sup> (0.818 ft<sup>2</sup>)

### Weight

23.7 kg (52.25 lb)

### Box content

Camera, installation guide, installation manual IM001, AXIS TQ1924-E Washer Nozzle, AXIS TQ1917 Adapter M25x1.5-3/4 NPT, connector kit, installation kit, owner authentication key, Declaration of Conformity

### System tools

AXIS Site Designer, AXIS Device Manager, product selector, accessory selector, lens calculator  
Available at [axis.com](https://axis.com)

### Languages

English, German, French, Spanish, Italian, Russian, Simplified Chinese, Japanese, Korean, Portuguese, Polish, Traditional Chinese, Dutch, Czech, Swedish, Finnish, Turkish, Thai, Vietnamese

### Warranty

5-year warranty, see [axis.com/warranty](https://axis.com/warranty)

### Part numbers

Available at [axis.com/products/axis-x1100#part-numbers](https://axis.com/products/axis-x1100#part-numbers)

## Optional accessories

### Mounting

AXIS TQ1301-E Pole Mount 50–150 mm (material: stainless steel, weight: 5.3 kg, dimensions: 190 x 234 x 250 mm, maximum load: 150 kg)  
AXIS TQ1001-E Wall Mount (material: stainless steel, weight: 3.8 kg, dimensions: 170 x 150 x 350 mm, maximum load: 150 kg)  
AXIS TQ1301-E Pole Mount need to be combined with AXIS TQ1001-E Wall Mount.

For more accessories, go to [axis.com/products/axis-x1100#compatible-products](https://axis.com/products/axis-x1100#compatible-products)

## Sustainability

### Substance control

PVC free, BFR/CFR free in accordance with JEDEC/ECA Standard JS709  
RoHS in accordance with EU RoHS Directive 2011/65/EU and 2015/863, and standard EN IEC 63000:2018  
REACH in accordance with (EC) No 1907/2006. For SCIP UUID, see [echa.europa.eu](https://echa.europa.eu)

### Materials

To read more about sustainability at Axis, go to [axis.com/about-axis/sustainability](https://axis.com/about-axis/sustainability)

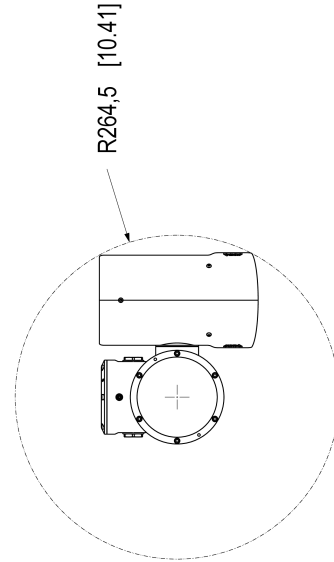
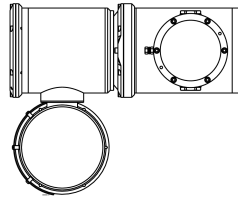
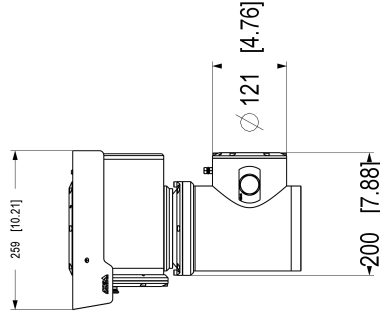
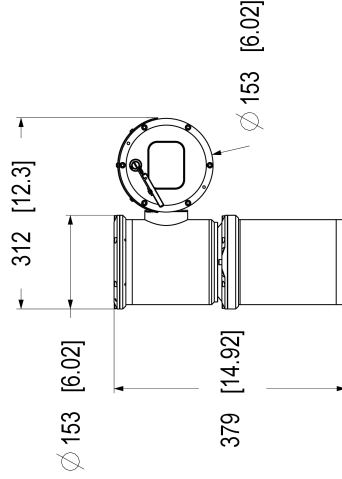
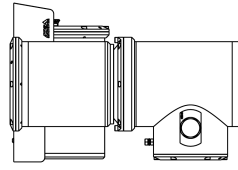
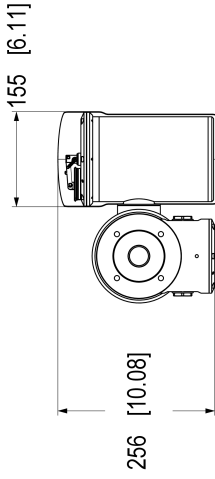
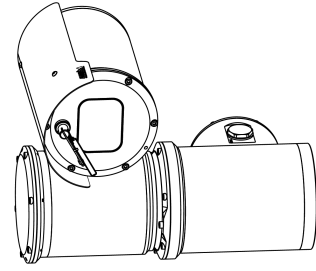
### Environmental responsibility

[axis.com/environmental-responsibility](https://axis.com/environmental-responsibility)  
Axis Communications is a signatory of the UN Global Compact, read more at [unglobalcompact.org](https://unglobalcompact.org)

**Detect, Observe, Recognize, Identify (DORI)**

	DORI definition	Distance (wide)	Distance (tele)
Detect	25 px/m (8 px/ft)	138.3 m (453.6 ft)	3674.4 m (12052.0 ft)
Observe	63 px/m (19 px/ft)	54.9 m (180.1 ft)	1457.6 m (4780.9 ft)
Recognize	125 px/m (38 px/ft)	27.6 m (90.5 ft)	734.2 m (2408.2 ft)
Identify	250 px/m (76 px/ft)	13.8 m (45.3 ft)	366.7 m (1202.8 ft)

The DORI values are calculated using pixel densities for different use cases as recommended by the EN-62676-4 standard. The calculations use the center of the image as the reference point and consider lens distortion. The possibility to recognize or identify a person or object depends on factors such as object motion, video compression, lighting conditions, and camera focus. Use margins when planning. The pixel density varies across the image, and the calculated values can differ from the distances in the real world.



Dimensions in mm [inch]	
Max. Value	Min. Value
155 [6.11]	153 [6.02]
312 [12.3]	312 [12.3]
379 [14.92]	379 [14.92]
259 [10.21]	259 [10.21]
121 [4.76]	121 [4.76]
200 [7.88]	200 [7.88]
264,5 [10.41]	264,5 [10.41]
3436611	3436611
AZ	1(1)

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